Deep Learning –HW#4

About the Assignment

The main aim of the assignment is to gain some fundamental knowledge about deep learning on Python. The gains of this homework are:

- Able to design a CNN model
- Able to setting the parameter of a CNN model
- Able to use to Pytorch library
- Able to analyze performance of a model
- Able to save and load a CNN model

Tasks:

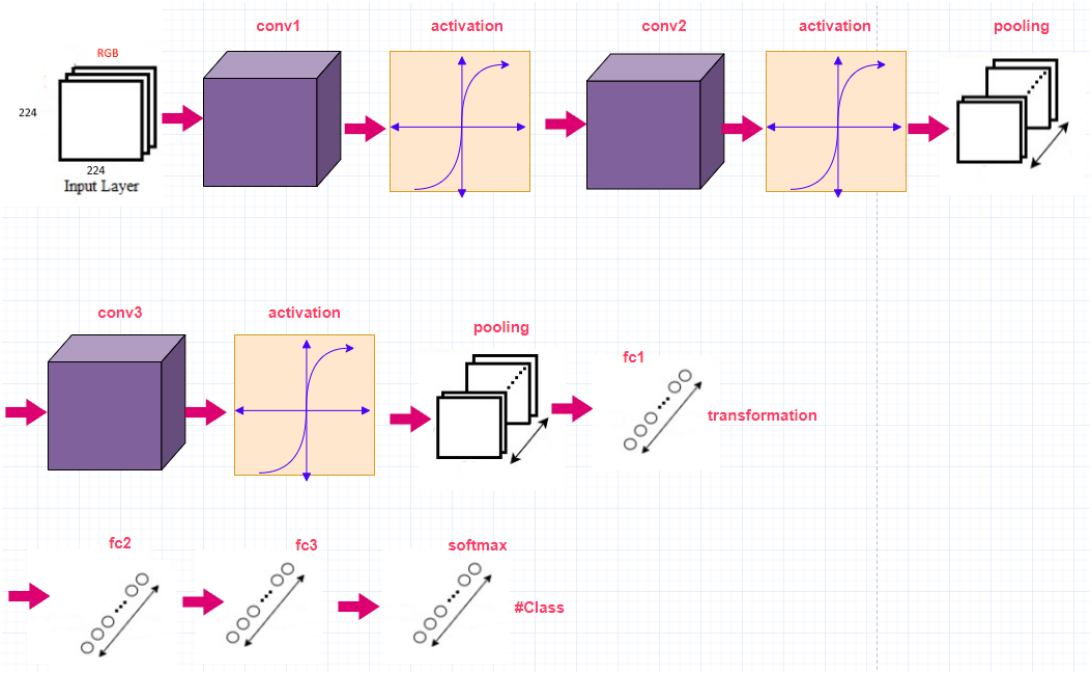

Fig. 1: CNN Model.

You are expected to implement the CNN model given in Fig. 1. The train data is consisting of Caltech Tiny images.

1- Implement this CNN model by using Pytorch.
2- You are expecting use your own transformation function in transformation function.
3- The activation function is **Gish**.

4- Train this model and evaluate the model on test images.

5- In case of model.compile define the following settings.

Optimizer: Adam, Learning rate = 1e-3, batch-size=16, epoch=50,

```
scheduler = torch.optim.lr_scheduler.MultiStepLR(optimizer, milestones=
[20, 40], gamma=0.3)
```

it means that you should drop the learning with a defined epoch interval.

Set validation data as like below

6- Save model with defined ModelCheckpointer

7- Load model and evaluate model with test samples.

8- Show the **confusion matrix, accuracy, f-score and auc score** of the model.

download colab notebook file with outputs, and also write results and details to pdf file.

Send colab notebook and pdf as zip file

Send your code as zip. Yourname-surname-hw#.zip